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HANDLE VIA [redacted]

CONTROL SYSTEM

[redacted]

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DE RUXQAA 521 1382008
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~~S E C R E T~~ 182007Z MAY 73 CITE [redacted] 0634.
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SUBJECT: AVIATION WEEK ARTICLE

REFERENCE AVIATION WEEK AND SPACE TECHNOLOGY, MAY 14 1973, PAGE 51. THE PENULTIMATE PARAGRAPH UNDER THE COLUMN TITLED FILTER CENTER ANNOUNCES THAT THREE COMPANIES HAVE BEEN SELECTED TO STUDY A SATELLITE NAVIGATION-GUIDANCE-CONTROL SYSTEM WHICH COULD BE USED ON PHOTO AND ELINT SATELLITES. WE ARE CONCERNED OVER WHAT APPEARS TO BE A BLATANT DISREGARD OF NATIONAL POLICH AND WOULD LIKE AN EXPLANATION OF HOW THESE WORDS CAME TO APPEAR IN PRINT. OF SIGNIFICANCE, IN THIS INSTANCE, IS THAT NO OTHER APPLICATION IS INDICATED FOR THE PROPOSED CONTROL SYSTEM. REQUEST THAT YOU INVESTIGATE THIS MATTER WITH SAMSO AND REPORT FINDINGS TO US ALONG WITH ANY CORRECTIVE ACTIONS NECESSARY.
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pilot decision to be keyed into the machine indicating whether or not to accept the new data. Smith accepted the new Vortac data and, shortly afterward, was cleared direct from present position to Arrowhead.

Clearance to Descend

Smith asked clearance to begin his descent, planning to cross Arrowhead at the programed altitude of 14,000 ft.

"That's a little tough," Center replied, and cleared TWA 17 to descend and maintain Flight Level 240. The aircraft now turned direct to Arrowhead, about 313 mi. away, and the control-display unit indicated a course of 225 deg. to Arrowhead, with an estimated time of arrival of 0628 GMT. Altitude planned at the fix read 14,000 ft.

Smith again contacted the center, explaining that he was cleared to flight level 240, but had a program that called for crossing Arrowhead at 14,000 ft., if approved.

This was a different controller, and Smith described to him the Arrowhead STAR and the Runway 25L approach. The airplane was still about 200 mi. out when it was cleared to descend and maintain 18,000 ft. and contact Los Angeles Center on another frequency.

"Do you have the clearance or do you want it?" asked the next controller. He cleared TWA 17 for the Arrowhead approach, then asked: "You want Bassett at 7,000?" Answered in the affirmative, he told the flight to squawk 1100 and switch to center on 128.2 mc.

"Will you just intercept the localizer?" asked the next controller. Los Angeles could now be seen as a wide band of light in the night from about 50 mi.

Cleared for 10,000

Cleared out of 17,000 ft. for 10,000, the flight was told to squawk 0400.

"I haven't touched an aircraft control since first intercepting the R-Nav route," Smith pointed out to the flight deck personnel.

TWA 17 was now handed off to Los Angeles approach control on 124.9 mc., and asked to ident and maintain 7,000 ft.

"What are you doing tonight, TWA 17?" an approach controller asked.

Smith explained the Arrowhead STAR and R-Nav approach.

"Oh, outstanding," approach control replied.

The airplane made good all crossing altitudes with no pilot intervention and, close in on final, Smith abruptly switched off the R-Nav system and continued the approach and landing manually.

The Arma engineer asked why he had done that.

"I like to fly," Smith replied.

(This is the first of two articles on the TWA R-Nav route evaluation. The second article will appear in a subsequent issue.)

Filter Center

New design of airport surface detection radar, to be installed soon at the Los Angeles International Airport, which resembles a spinning helicopter rotor blade, is an adaptation of the rotor blade radar developed earlier by Texas Instruments (AW&ST June 17, 1968, p. 66). The 14-ft. long slotted-array antenna, enclosed in a blade-shaped radome, operates at K_u band and rotates at 150 rpm. Because of the low-mass antenna, it can be installed inexpensively atop the tower cab (AW&ST Feb. 7, 1972, p. 47). A similar ASDR has been ordered from Texas Instruments for installation later this year at the Zurich international airport.

Three RCA Secant collision avoidance systems will be delivered shortly to Naval Air Development Center for flight evaluation expected to begin in June. The NADC evaluation is being performed for the Federal Aviation Administration. Following tests of the RCA hardware, NADC is to begin evaluation of the competing Honeywell CAS system this fall. Two bills recently introduced in the Senate and House call for the FAA to complete its evaluation of major CAS contenders by Mar. 30, 1974 (AW&ST Apr. 30, p. 21).

Air Force expects to seek bids soon for integrating ALQ-99 noise jammers into two production prototypes of the projected General Dynamics EF-111A tactical jamming system, intended to replace McDonnell Douglas EB-66 electronic warfare aircraft. The jammers, part of a system, developed for the Navy/Grumman EA-6B (AW&ST Feb. 21, 1972, p. 45), will supplement the F-111's existing threat warning and self-protection ECM systems.

Flight test of Sperry Flight Systems terminal area guidance, navigation and control system for short-takeoff-and-landing aircraft (Stoland) was scheduled to begin late last week at National Aeronautics and Space Administration's Ames Research Center. The system is to be flown in a NASA Convair 340, using flight director outputs, but not coupled to an autopilot or autothrottle equipment. Fully-coupled tests in the Boeing-modified de Havilland of Canada C-8A Buffalo (AW&ST Feb. 14, 1972, p. 25) will begin in the fall.

Singer-Kearfott has received a contract for $500,000 from Rockwell International for flight instrumentation signal converters (FISC) and multiplex interface modules for the USAF/Rockwell B-1 research, development, test and engineering vehicle. The signal converters are used between the Kearfott SKC 2070 avionics control unit supplied to Boeing (AW&ST Apr. 16, p. 44) and other avionics on the aircraft.

Three companies have been selected to conduct 12-month studies of an autonomous satellite navigation-guidance-control system which could be used on photo-reconnaissance and electronic intelligence (Elint) satellites to make them independent of a global network of tracking-command stations. The three companies are Honeywell Aerospace Div., IBM Federal Systems Div. and TRW Systems. Contracts, awarded by USAF's Space and Missile Systems Organization (SAMSO), range from $761,000 for TRW to $901,000 for IBM.

Bendix International will supply an airborne remote sensing and ground data processing system to the Argentine Ministry of Agriculture and Cattle for conducting surveys of the country's agricultural lands, under a $1-million contract from the ministry. The survey will use the airborne modular multiband scanner (M^2S), designed by Bendix Aerospace Systems Div. to acquire 11 channels of data (AW&ST May 24, 1971, p. 41), ranging from the ultraviolet region to the far infrared. Equipped with its thermal detector unit, the scanner system can map the heat energy radiated from land or water, aiding pollution investigation.